

^{207}Rn α decay [1971Go35](#),[1971Jo19](#),[1993Wa04](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 177, 509, 2021	4-Jul-2021

Parent: ^{207}Rn : E=0; $J^\pi=5/2^-$; $T_{1/2}=9.25$ min 17; $Q(\alpha)=6251.2$ 16; $\% \alpha$ decay=21 3

^{207}Rn - $J^\pi, T_{1/2}$: From [2011Ko04](#).

^{207}Rn - $Q(\alpha)$: From [2021Wa16](#).

^{207}Rn - $\% \alpha$ decay: From [2011Ko04](#).

 ^{203}Po Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [‡]
0	$5/2^-$	36.7 min 5
60 3	$3/2^-$	
133 4	$(1/2^-)$	

[†] From $E\alpha$.

[‡] From Adopted Levels.

 α radiations

$E\alpha$	E(level)	$I\alpha$ ^{‡#}	HF [†]	Comments
6000 4	133	≈ 0.10	≈ 304	$E\alpha$: Using the adopted value of 6130.0 keV 16 for ^{207}Rn (g.s.) to ^{203}Po (g.s.) α -decay and the weighted averages value of the measured α energy differences of 131 keV 4 (1971Go35) and 129 keV 7 (1971Jo19).
6071.0 26	60	≈ 0.66	≈ 97	$E\alpha$: Using the adopted value of 6130.0 keV 16 for ^{207}Rn (g.s.) to ^{203}Po (g.s.) α -decay and the weighted averages value of the measured α energy differences of 58 keV 3 (1971Go35) and 60 keV 3 (1971Jo19).
6130.0 16	0	≈ 99.24	≈ 1.2	$E\alpha$: Weighted average of 6135 keV 3 (1967Va20), 6126 keV 3 (1971Go35) and 6129.4 keV 25 (1993Wa04). Other: 6130 keV (1974Ho27).

[†] Using $r_0(^{203}\text{Po})=1.484$ 4, weighted average of 1.492 5 (^{202}Po , N=120) and 1.476 5 (^{204}Po , N=122), deduced using $\text{HF}_\alpha=1.0$.

[‡] From [1971Go35](#).

[#] For absolute intensity per 100 decays, multiply by 0.21 3.